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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,505	11/26/2003	Dale G. Swan	SRM0006/US	8953
72870	7590	11/08/2010		
Kagan Binder, PLLC 221 Main Street North Suite 200 Stillwater, MN 55082			EXAMINER NAFF, DAVID M	
			ART UNIT 1657	PAPER NUMBER
			MAIL DATE 11/08/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/723,505	<b>Applicant(s)</b> SWAN ET AL.	
	<b>Examiner</b> David M. Naff	<b>Art Unit</b> 1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 14-21, 28-32 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14-21, 28-32 and 34-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/14/10</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been  
5 timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/14/10 has been entered.

An amendment filed 5/14/10 amended claim 14 and added new claims 35 and 36.

Claims examined on the merits are 1-11, 14-21, 28-32 and 34-36, which are all claims in the application.

### 10 *Claim Rejections - 35 USC § 103*

Claims 1-11, 14-21, 28-32 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chudzik et al (7,094,418 B2) or Hubbell et al (5,529,914) or Hubbell et al (6,258,870 B1) in view of Scharp et al (7,427,415), and if necessary in further view of Sawhney et al (6,217,894).

15 The claims are drawn to a composition comprising a polymerization accelerator comprising a biocompatible functional group, a carbonyl group, and an N-vinyl group, and a polymerizable material, wherein the accelerator increases the rate of the polymerizable material becoming incorporated into a polymerized product in a polymerization reaction. The functional group can be a sulfonate group.

20 Chudzik et al disclose a composition containing a cross-linkable macromer and an accelerator, which can be N-vinyl caprolactam (col 11, line 14).

Hubbell et al ('914) and ('870) disclose a method involving combining a macromer with a photoinitiator and a polymerization accelerator, and polymerizing the macromer. For example,

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see claims 1, 67 and 68 of Hubbell et al ('914) and claims 1, 30 and 31 of Hubbell et al ('870) where the accelerator is N-vinyl pyrrolidinone.

Scharp et al disclose carrying out polymerization with a solution containing an ethenically unsaturated PEG and a sulfonated co-monomer (col 12, lines 52-65). Preferably, an accelerator  
5 is present which can be N-vinyl carpolactam or N-vinyl pyrrolidinone (col 13, lines 7-12). Incorporating a sulfonic acid group to the accelerant can improve biocompatibility of the final product.

Sawhney et al disclose that co-monomers such as N-vinyl carpolactam and N-vinyl pyrrolidinone can also act as accelerators when carrying out polymerization (col 11, lines 38-  
10 43).

It would have been obvious to provide the N-vinyl carpolactam or N-vinyl pyrrolidinone polymerization accelerator used by Chudzik et al or Hubbell et al ('914) or Hubbell et al ('870) with a sulfonate group to improve biocompatibility as suggested by Scharp et al disclosing polymerization using a sulfonated co-monomer, and that incorporating a sulfonic acid group to  
15 an accelerant, which can be N-vinyl carpolactam or N-vinyl pyrrolidinone, improves biocompatibility. N-vinyl carpolactam or N-vinyl pyrrolidinone contain a carbonyl group and an N-vinyl group. Sawhney et al disclose N-vinyl carpolactam or N-vinyl pyrrolidinone functioning as both a co-monomer and as an accelerator, and if needed would have suggested using N-vinyl carpolactam or N-vinyl pyrrolidinone as both a co-monomer and accelerator. When used  
20 as a co-monomer, it would have been obvious to provide the N-vinyl carpolactam or N-vinyl pyrrolidinone with a sulfonate group to provide a sulfonated co-monomer that can also function as an accelerator as suggested by Scharp et al. The conditions of dependent claims would have been obvious from conditions disclosed by the references.

### ***Response to Arguments***

A 37 CFR 1.131 Declaration previously submitted containing Exhibits 1-13 shows conceiving and reducing to practice the invention prior to October, 2002, which is before the earliest filing date of Scharp et al. However, the declaration is improper by being signed by only one co-inventor (Dale G, Swan). A 131 Declaration must be signed by all co-inventors unless it is shown that not all co-inventors invented the subject matter of the claims, or it is shown that other joint inventors are not able to sign by being deceased, refuses to sign or is otherwise unavailable. Even if the declaration is signed by less than all joint inventors, the declaration must show completion of the subject matter claimed by all joint inventors. See MPEP 715.04.

Event if the declaration is signed by all co-inventors, the declaration does not antedate Scharp et al since the claims are not commensurate in scope with the accelerators shown by the exhibits. Except for claims 11, 32 and 34, the claims do not require a sulfonate group as the biocompatible functional group, and the claims do not require an N-vinyl amide group, carbonyl group and sulfonate group in combination. Additionally, the exhibits do not show using N-vinyl carpolactam or N-vinyl pyrrolidinone as an accelerator, which are disclosed by Scharp et al, and are encompassed by the present claims. See MPEP 715.02.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 571-272-0920. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon P. Weber reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M. Naff/  
Primary Examiner, Art Unit 1657

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DMN  
11/8/10